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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/206,852	12/08/1998	RICHARD F. ALLISON	6550000028	6041
7380	7590	12/11/2006	EXAMINER FOX, DAVID T	
SMART & BIGGAR P.O. BOX 2999, STATION D 900-55 METCALFE STREET OTTAWA, ON K1P5Y6 CANADA			ART UNIT 1638	PAPER NUMBER

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/206,852

Applicant(s)

ALLISON ET AL.

Examiner

David T. Fox

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-13,21,22 and 24-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-13,21,22 and 24-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3, 5-13, 21-22 and 24-33 are pending, following entry of the amendment of 22 August 2006. Said amendment and accompanying arguments have overcome the indefiniteness rejection of record.

Claims 1, 3, 5-13, 21-22 and 24-33 remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, as stated on page 3 of the last Office action.

Applicant's arguments filed 22 August 2006 have been fully considered but they are not persuasive. Applicant urges that the recitation in the specification of a genus consisting of "dry bean, soybean, corn, barley, cucumber and cotton" provides adequate basis for the term "leguminous plants".

The Examiner maintains that "leguminous plants" is a genus that includes alfalfa, peanut, flowering redbud tree, fava bean, chickpea or garbanzo bean, pea, lentil, French bean, wax bean, lima bean, kidney bean, pinto bean, black-eyed pea, scarlet runner bean, bird's foot trefoil, etc. There is no basis in the specification for this genus.

Furthermore, the quoted phrase above merely lists two species belonging to the legume family, together with two species belonging to the grass family, one species belonging to the squash family, and one species belonging to the cotton family.

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Applicant is now attempting to carve out a sub-range from the originally recited genus, which sub-range has no basis in the specification. See MPEP 2163, part I.B.; and MPEP 2163.05, parts II and III.

Claims 1, 3, 5-13, 21-22 and 24-33 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Burchi et al in view of Bidney et al, in light of Griesbach and Vik et al, as stated on pages 3-5 of the last Office action.

Applicant's arguments filed 22 August 2006 have been fully considered but they are not persuasive. Applicant urges that the art rejection is improper, given the improper reliance upon Vik et al published after the effective filing date of the instant application, the failure of any reference to teach an aqueous medium into which the root of the plant has been submerged, the failure of the references to teach a reasonable expectation of success, and the failure of Bidney et al to teach the use of a single plasmid or a vir gene-free plasmid in Ti-plasmid-mediated transformation.

The Examiner maintains that Vik et al was cited merely to illustrate that it was well-known in the art that the root of the plant to be transformed was placed in contact with a positive electrode, while the meristem of the plant to be transformed was placed in contact with a negative electrode (see, e.g., page 102, top two paragraphs, as stated on page 5 of the last Office action). Vik et al also demonstrates that Burchi et al cited by the Examiner inherently utilized the same configuration of positive and negative electrodes (see, e.g., page 102 of Vik et al, top paragraph), so that the actual switched recitations in Burchi et al of "cathode" (positive electrode) and "anode" (negative electrode) were clearly typographical errors. It is entirely appropriate for later-published

art to be cited in order to demonstrate the inherent property of an earlier-published reference. See MPEP 2124.

Regarding the alleged failure to teach the use of an aqueous medium, the Examiner notes that few of the rejected claims are so limited. Claim 1, part (a) merely recites that the meristematic tissue be contacted with some type of "medium"; and claim 22, part (b) does not specify in what type of medium the "area...below the meristematic tissue" is contacted with the positive lead.

Regarding the alleged failure of Bidney et al to teach a single Ti plasmid or a vir gene-free plasmid, the Examiner notes that none of the claims are so limited. Furthermore, Bidney et al was cited simply to show that soybean transformation was recognized as desirable by the artisan of ordinary skill, and that *Agrobacterium*-mediated transformation could be combined with another type of physical treatment including wounding (in the reference) which is analogous to electrical treatment as instantly claimed.

Regarding the motivation to combine or the reasonable expectation of success, the Examiner maintains that Burchi et al teach successful *in situ* electroporation-mediated transformation of three different dicotyledonous plant species, while Griesbach teaches successful *in situ* electroporation-mediated transformation of yet another species, while Bidney et al teach the desirability of soybean transformation by any means, including the combination of *Agrobacterium* and a physical pre-treatment which somehow wounds the cells.

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Furthermore, it is noted that Applicant's claims are not limited to those elements which resulted in unexpected results, namely successful transformation and retention of the transgene. Applicant's claims are broadly drawn to any leguminous plant, any meristematic tissue type, any developmental plant stage, any area of the plant below the meristematic tissue, and any medium therefor. In contrast, the specification only shows results when either dry bean seedlings or soybean seedlings were used, wherein the seedling root was submerged in buffer containing a positive electric lead, and wherein the apical meristem was contacted with a negative electric lead.

See *In re Lindner*, 173 USPQ 356 (CCPA 1972) and *In re Grasselli*, 218 USPQ 769 (Fed. Cir. 1983) which teach that the evidence of nonobviousness should be commensurate with the scope of the claims.

No claim is allowed.

The following claim amendments would result in allowance of this application:

Cancel claims 3, 5, 11-13, 25-27 and 31-33.

Amend claims 1 and 21-22 as follows:

---Claim 1 (currently amended). A method for transforming a [leguminous plant] seedling of soybean or dry bean comprising the steps of:

(a) contacting [a meristematic tissue] the apical meristem of the [leguminous plant] soybean or dry bean seedling with a medium comprising DNA;

(b) suspending the root of the [leguminous plant] soybean or dry bean seedling in buffer and contacting said root with a positive lead of a power source;

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(c) contacting the medium comprising DNA in step (a) with a negative lead of the power source; and

(d) applying a low amperage current from the power source, thereby causing the DNA to migrate from the medium to the cells of the [meristematic tissue] apical meristem of the [leguminous plant] soybean or dry bean seedling.---

---Claim 21 (currently amended). A method for producing seed of a transformed [leguminous] soybean or dry bean plant comprising the steps of:

(a) growing a transformed soybean or dry bean plant from the transformed seedling produced by the method of claim 1;

[(a)] (b) propagating the transformed [leguminous] soybean or dry bean plant [produced by the method of claim 1];

[(b)] (c) pollinating the transformed [leguminous] soybean or dry bean plant; and

[(c)] (d) harvesting seed from the transformed [leguminous] soybean or dry bean plant.

Claim 22 (currently amended). A method for transforming a [leguminous plant] seedling of soybean or dry bean comprising the steps of:

(a) contacting [a meristematic tissue] the apical meristem of the [leguminous plant] soybean or dry bean seedling with a medium comprising DNA, wherein said DNA comprises a plasmid vector having a T-DNA region and border sequences;

(b) [contacting an area of the leguminous plant below the meristematic tissue of step (a)] suspending the root of the soybean or dry bean seedling in buffer and contacting said root with a positive lead of a power source;

(c) contacting the medium comprising DNA in step (a) with a negative lead of the power source; and

(d) applying a low amperage current from the power source, thereby causing DNA to migrate from the medium to the cells of the [meristematic tissue] apical meristem of the [leguminous plant] soybean or dry bean seedling.--

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David T. Fox whose telephone number is 571-272-0795. The examiner can normally be reached on Monday through Friday from 10:30AM to 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg, can be reached on 571-272-0975. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 5, 2006

DAVID T. FOX
PRIMARY EXAMINER
GROUP 180-1638

A handwritten signature in black ink, appearing to read "D. Fox", written in a cursive style.